indicating an important step toward facilitated mobilization on extracorporeal pulmonary support. They described their experience with a new medical device, a double-lumen cannula for single-vessel access in adults that is introduced through the right jugular vein.

Our group in Regensburg, Germany, has gained an extensive experience in extracorporeal life support during the last decade, with currently more than 500 extracorporeal membrane oxygenation cases for respiratory and cardiac support. The Avalon double-lumen cannula (Avalon Laboratories, LLC, Rancho Dominguez, Calif) for respiratory support was introduced in our institution in 2009. As of this writing, 40 patients in our institution have been equipped with this double-lumen catheter. We therefore appreciate the opportunity for some remarks regarding the work of Garcia and colleagues.[1]

Similar to the Maryland group, we strongly recommend visual guidance during the implantation of the double-lumen cannula. Cannula placement has the potential to be harmful, damaging crucial structures, including the great veins and the heart. Garcia and colleagues[1] described advancing the tip of the guidewire 2 cm into the inferior vena cava. Our group prefers advancing the guidewire down to the iliac veins if possible, to minimize the risk of guidewire dislocation during implantation of the actual cannula.

We were surprised and at the same time encouraged by the fact that veno-venous support was used successfully in patients with right ventricular failure, because veno-arterial support is generally the preferred mode for the failing right ventricle. Garcia and colleagues[1] did not comment on this new approach in detail. Apparently, in some patients an atrial septal defect was present, acting as a pop-off shunt for the right ventricle.

Garcia and colleagues[1] noted that they did not use the double-lumen cannula in patients with a body surface area greater than 2.0 m^2. Our group has seen a special advantage in the use of the double-lumen catheters, especially in morbidly obese patients with a body surface area greater than 2.0 m^2 and a body mass index greater than 40 kg/m^2, because cannulation of the internal jugular vein in this patient population is often still possible.

We also remark on the displayed gas transfer. In screening our database, we found the recorded gas transfer rates to have a mean between 200 and 300 mL/min. We have never calculated values above 500 mL/min, however, and according to the manufacturer a gas transfer of 529 mL/min with the Quadrox oxygenator (Maquet Medical Systems USA, Wayne, NJ) is virtually impossible.[2]

We congratulate Garcia and colleagues[1] for their approach to tunneling the cannula in the neck to prevent infection and dislocation. On the other hand, we are concerned as to whether the correct placement of the cannula might be hindered by tunneling the cannula.

Last but not least, Garcia and colleagues[1] have described an important and significant step toward ambulatory lung support that might be applicable in the future on an outpatient level. For now, however, ambulation on extracorporeal membrane oxygenation is only possible in intensive care settings.

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Reply to the Editor:

We greatly appreciate the comments by Camboni and colleagues in response to our early experience with ambulatory extracorporeal membrane oxygenation. Although the avoidance of groin cannulation with the use of a dual-lumen, single-cannula system for extracorporeal membrane oxygenation is a critical component, we prefer to view ambulatory extracorporeal membrane oxygenation as an overall treatment strategy, rather than simply the use of a new device. We believe that reducing mechanical ventilatory support and encouraging ambulation to minimize ventilator-induced lung injury and deconditioning are vital to better outcomes in this patient population.

In response to the comments concerning cannula placement, we agree that for safe cannula placement, the final stiff guidewire should be placed into the iliac veins; however, our practice is to place an initial soft guidewire into the inferior vena cava. A catheter is then placed over the soft guidewire at least 2 cm into the inferior vena cava. The soft guidewire is then exchanged for a stiff guidewire, which is then advanced to the iliac veins for placement of the cannula. This extra step allows easier and safer advancement of a stiff guidewire across the right atrial–inferior vena caval junction. Moreover, in light of anecdotal reports of atrial perforation with cannula displacement during patient movement in other centers, we favor tunneling the catheter whenever possible. In our experience, which has been guided by the use of fluoroscopy and transesophageal echocardiography, tunneling the catheter has not resulted in any difficulty with catheter positioning.

The Regensburg group also makes a prudent observation with regard to

veno-venous support in cases of right ventricular failure. Although veno-venous support is generally not successful in cases of right ventricular failure, the patient in our series was seen with severe pulmonary hypertension and a large atrial septal defect with a right-to-left shunt. Flow from the cannula was therefore preferentially shunted across the atrial septal defect, resulting in functional veno-arterial support.

We also commend their group for the use of the Avalon dual-lumen cannula (Avalon Laboratories, LLC, Rancho Dominguez, Calif) for patients with a body surface area greater than 2.0. In our initial experience, we were concerned that high enough flow rates to fully oxygenate these patients would not be achievable. We have subsequently, however, used the Avalon cannula with surprising success in patients with a body surface area greater than 2.0.

In reply to the comment regarding range of gas exchange rates in this series, we too generally recorded rates between 200 mL/min and 300 mL/min. Only a single time point was found to have a rate greater than 500 mL/min, and this value may simply represent laboratory error.

This remains an exciting time in the evolution of care for patients with severe lung injury, and further study of the use of ambulatory extracorporeal membrane oxygenation is still required.

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CONCERNING EN MASSE LOBECTOMY

To the Editor:

We read with interest the article entitled, ''Video-Assisted Thoracoscopic Surgery (VATS) Lobectomy: Catastrophic Intraoperative Complications,'' by Flores and colleagues[1] in the December 2011 issue of *The Journal of Thoracic and Cardiovascular Surgery.* We are interested in their experience and would like to make some comments.

For patient 1 among the 12 cases they described, Flores and colleagues[1] said that the posterior ascending branch of the pulmonary artery had calcified lymph nodes that required dissection. Subsequently, the pulmonary artery was damaged irreparably, and intrapericardial proximal arterial control was needed with a thoracotomy. As a result, a planned right upper lobectomy was eventually converted into a pneumonectomy. We do not know the details of the manipulation, because Flores and colleagues[1] did not describe it further.

We would like to recommend in such cases the ''en masse lobectomy.'' Originally, en masse hilar management was the main technique used in lobectomy, because surgeons warned against hilar dissection and individual ligation for fear of spreading infection by opening inflamed tissue planes.[2] Times have changed, however, and individual hilar management has become the standard procedure in modern lobectomy. Nevertheless, some authors[3,4] still report that en masse lobectomy is useful under certain conditions.

From an oncologic perspective, care should be taken when handling malignant lung diseases because of the potential for lymph node metastasis. If no lymph node metastasis is detected preoperatively, and there are inflammatory adhesions to the pulmonary artery, we do not think that dissection is required. Even if this is not the case, we think that an octogenarian would welcome an en masse lobectomy as a thorough pneumonectomy. If no calcifications are found, a mechanical stapler could be applied to the divided root of the right upper lobe, as is done with simultaneously stapled lobectomies.[5]

We believe that this technique might help to avoid catastrophic intraoperative complications. Thus, with an understanding of what has taken place in the past, it should be possible to reshape the present and future.

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Reply to the Editor:

With regard to our article, ''Video-Assisted Thoracoscopic Surgery (VATS) Lobectomy: Catastrophic Intraoperative Complications,''[1] I agree with Kamiyoshihara and associates that en masse lobectomy (tourniquet lobectomy) is a useful tool in the thoracic surgeon's armamentarium. This procedure has the potential, however, to leave N1 nodal disease behind in patients with lung cancer. The key is to identify the potentially dangerous situation before starting the dissection. Heavily calcified lymph nodes and an artery that is inseparable from the bronchus should be clues to avoid further dissection, and a tourniquet lobectomy may prove to be a very useful alternative. Nevertheless, tourniquet lobectomy does not